OTE, a. s.
Key Information

OTE, a. s., was founded on 18 April 2001 by the Czech Republic's government, which is the Company's sole shareholder. The Ministry of Industry and Trade is entrusted by the government to exercise the shareholder's rights. The company has been active in the electricity market since 2002, and in the gas market since 2010.

The registered capital of the company is CZK 500 million.

OTE's operations reaffirm the Company's significant position on the electricity and gas markets both in the Czech Republic and across Europe.

Core operations comprise:

→ evaluation and financial settlement of imbalances between contracted and metered supply and consumption of electricity and gas;
→ the organization of the short-term electricity market and the short-term gas market and the performance of the activities of the NEMO pursuant to Commission Regulation (EU) 2015/1222;
→ processing and exchange of data and information related to the electricity and gas markets through the Centre of Data Services, 24 hours a day, 7 days a week;
→ administration of support payments to supported energy sources;
→ issuance of guarantees of origin of electricity from renewable energy sources and combined heat and power;
→ performing the function of a national administrator of the Union registry for emission trading;
→ provision of technical support for change of electricity and gas supplier in customer points of delivery;
→ preparation of monthly and yearly reports on the electricity market and the gas market in the Czech Republic;
→ preparation of reports on projected electricity and gas consumption and the method of ensuring balanced electricity and gas supply and demand;
→ trade data reporting pursuant to Regulation (EU) No. 1227/2011 of the European Parliament and of the Council on Wholesale Energy Market Integrity and Transparency (REMIT).

OTE has been actively engaged in professional organizations and their working groups in the Czech Republic and abroad CIGRE, EUROPEX, Price Coupling of Regions (PCR), Association of Issuing Bodies (AIB). The Company's goal is to promote liberal and transparent principles on the electricity and gas markets, participate in formulating rules governing these markets, and ensuring free and equal access to them for all market participants.

A significant success of the market operator is in response to Commission Regulation (EU) 2015/1222, the determination of The Nominated Electricity Market Operator (NEMO). This status is a visible evidence of many years of work on the development of an organized electricity market in the Czech Republic and a commitment and motivation for further expansion of the integrated day-ahead market and the emergence of an intraday electricity interconnected market.

OTE has been certified by ACER as the Registered Reporting Mechanism (RRM) in accordance with REMIT. The certification is a necessary prerequisite for the provision of reporting services to market participants.

Volumes of electricity and gas registered in the OTE system in 2022

Electricity	Sale	Purchase
Day-ahead market	24,154 GWh	11,738 GWh
Intraday market (including cross-border exchanges)	3,601 GWh	2,850 GWh
Bilateral transactions (internal nominations)	67,185 GWh	67,185 GWh
Export/Import	21,875 GWh	7,559 GWh

Gas	Sale	Purchase
Intraday market	4,423 GWh	4,423 GWh
Bilateral transactions (internal nominations)	206.8 TWh	206.8 TWh
Export/Import	81.4 TWh	174.0 TWh
Injection/Withdrawal	37.8 TWh	24.2 TWh

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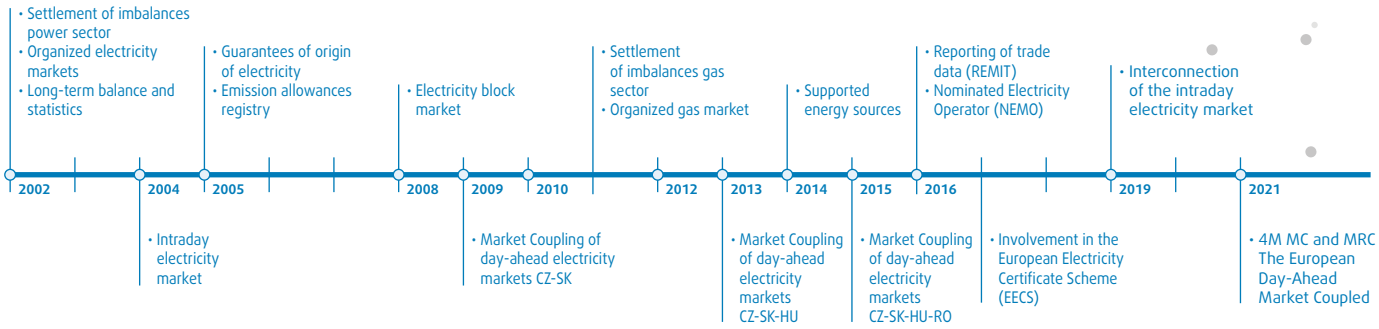
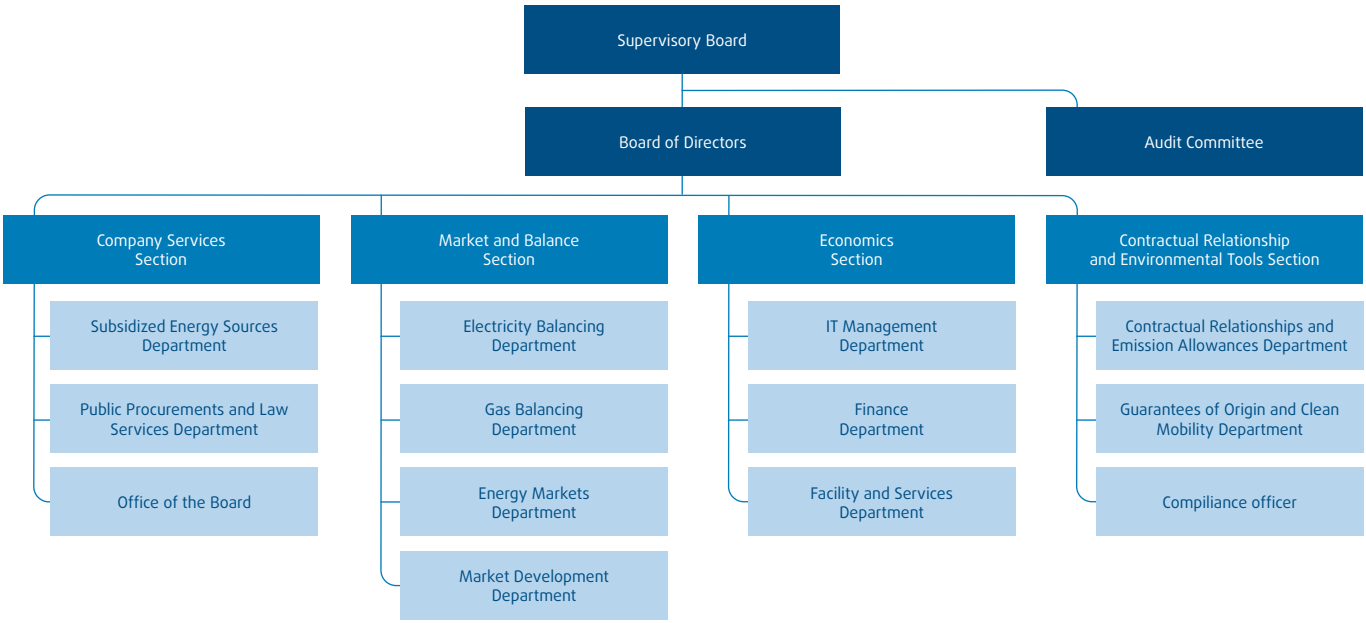
OTE, a. s.
Key Information

OTE at glance



Organisation scheme at 1 February 2022



Electricity and Gas market participants in 2022

Type of participant electricity market	Number at 31 December 2022	Year-on-year change
Balance responsible party	130	+13
Supplier	209	+11
Balancing energy provider	34	+8
Distribution system operator	267	+3
Transmission system operator	1	0

Type of participant gas market	Number at 31 December 2022	Year-on-year change
Balance responsible party	121	+8
Supplier	90	-15
Distribution system operator	71	+2
Transmission system operator	1	0
Gas storage operator	4	0

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Emission allowances
Key information

OTE, a. s., performs the function of a national administrator of the Union Registry for emission trading that ensures accurate accounting of the issuance, holding, transfer and cancellation of emission allowances and Kyoto units. OTE has performed this administration first on the basis of the authorization of the Ministry of the Environment since 2005, later pursuant to Act No. 383/2012 Coll., on the Terms of Greenhouse Gas Emission Allowance Trading.

Records of allowances and Kyoto units are maintained in specific national accounts, operator holding accounts, aircraft operator holding accounts and trading accounts.

Pursuant to Act No. 383/2012 Coll., on the Terms of Greenhouse Gas Emission Allowance Trading, operators of installations that have been included in the EU Emissions Trading System (EU ETS) and have been issued a permit by the Ministry of the Environment to emit greenhouse gases into the atmosphere are required to open a Registry account. Since January 2012 this obligation has applied also for aircraft operators whose operating licences have been issued in the Czech Republic or who are under the administration of the Czech Republic in accordance with the list of aircraft operators published by the European Commission.

Any natural person or legal entity may open a trading account, including installation operators and aircraft operators that have already established holding accounts.

EU Emission Trading System (EU ETS) was established pursuant to Directive 2003/87/EC. Pursuant to Commission Delegated Regulation (EU) No. 2019/1122, all Member States are required to use the standardized Union Registry launched in 2012, which replaced the EU Member States' national registries. The Union Registry is operated also as a consolidated registry system under the Kyoto Protocol.

The Union Registry can be accessed from the website **https://www.povolenky.cz**.

As at 31 December 2022, there were 245 operator holding accounts, 49 trading accounts and 9 aircraft operator holding accounts. These accounts belong to a total of 206 entitiess. Some of these entities have more than one account in the Registry.

In 2022, 1,149 transactions took place in the Registry, during which a total of 233,241,102 units changed accounts. The statistics include all transfer transactions made between account holders with general or aviation allowances and Kyoto units. Multiple unit types can be transferred in one transaction.

The reason for the transaction and the actual prices of allowances and Kyoto units are neither evaluated nor traded in the Registry. Emission trading takes place, for example through bilateral or exchange trades.

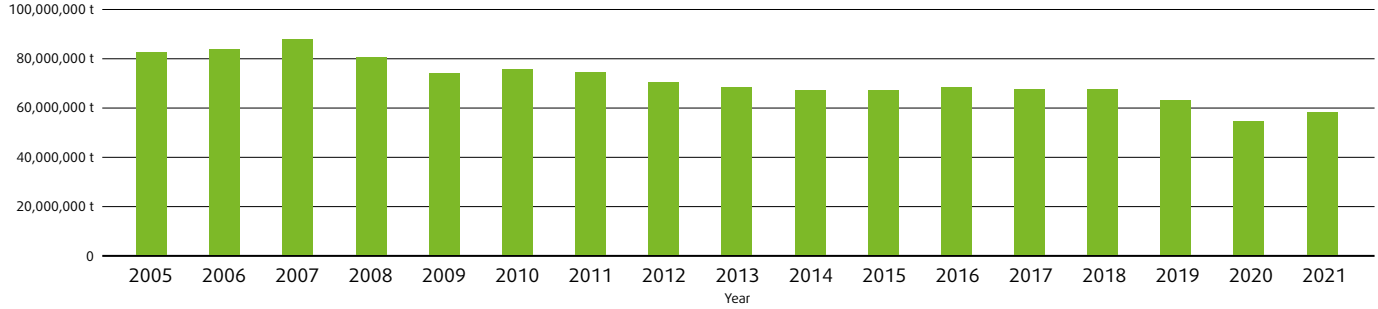
The deadline for meeting the legal obligation to surrender allowances in the amount of verified tonnes of greenhouse gas emissions produced from the installation in 2021 was 30 April 2022 for the operators of these installations. Two operators did not comply with this obligation. Thus, on 6 May 2022, the Report on the Evaluation of Installation Operators and Aircraft Operators in Relation to Compliance for 2021 was published at EU level in accordance with Annex XIII, paragraph 1 d), e) of Commission Delegated Regulation No. 2019/1122. The total amount of verified emissions produced from stationary installations and aircraft in 2021 was 58,035,670 tonnes of CO_2, N_2O and PFC, which is 3,260,974 tonnes more year-on-year.

Trends of reduction of emissions covered by the EU ETS system in the Czech Republic are demonstrated in the figure below on data from the Union Registry between 2005 and 2021.

Number of transactions and volume of transferred units in 2022

Unit type	Unit volume	Number of transactions
Emission allowances	232,527,377	1,128
Aviation emission allowances	705,576	22
Kyoto units	8,149	2
Total	233,241,102	1,149

Emission trends of CO_2, N_2O and PFC covered by the EU ETS in the Czech Republic



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Guarantees of origin
Key information

A guarantee of origin of energy declares which energy source it comes from, which production device, in which period and volume it was generated, and it allows customers to prove the origin of the energy they consume. For this purpose OTE operates the Registry of Guarantees of Origin (EZP).

The Market Operator was assigned the obligation to issue guarantees of origin upon written request of producers of electricity under Act No. 180/2005 Coll. The implementation of Act No. 165/2012 Coll. (POZE) resulted in a fundamental change in the administration of guarantees of origin in 2013. The guarantees of origin can now be issued in response to requests of producers of electricity only electronically. From 1 January 2023, an amendment to POZE expanded guarantees of origin to all kinds of electricity, biomethane, advanced biomethane, heat from renewable sources, heat from nuclear installation or hydrogen. Decree No. 328/2022 Coll. then sets out procedures, conditions and ways to verify data necessary for issuance, transfer, recognition and cancellation of guarantees of origin and its content requirements.

In 2022, 6,398,475 guarantees of origin were issued to 1,518 active account holders (so far only for electricity from renewable sources) which represents an increase of 2.9% in issued guarantees compared to 2021. The process of cancelling guarantees of origin transparently guaranteed the origin of approximately 3,948 GWh of electricity produced from renewable sources and consumed in the Czech Republic, which represents an increase of 33.5%. This increase proves a rising interest in certification of origin of electricity by consumers in the Czech Republic.

As the EZP system allows the issuance of guarantees of origin for power generation retroactively up to 12 months, it may be assumed that a certain portion of the guarantees of origin relating to power generation in 2022 will not be issued and cancelled until 2023.

Cancellation of the guarantee of origin is the process of its transfer to the cancellation account, which ends its life cycle. By the cancellation of the guarantee of origin the account holder declares that a given volume of energy represented by the relevant number of guarantees of origin was supplied to a final consumer.

Holders of license to produce electricity/gas or to trade electricity/gas may request access to the EZP system. All information on the EZP and on establishing access to it is available from the website **https://www.ote-cr.cz/cs/zaruky-puvodu-a-povolenky/**.

International transactions

Following the launch of the EZP system, the market operator became a member of the international Association of Issuing Bodies (AIB) in November 2013. The market operator is also included in the international standardized European Electricity Certificate Scheme (EECS). The EZP system is thus fully harmonized with the other systems of countries associated in the AIB and allows the import and export of guarantees of origin issued in these countries. The cooperation of the market operator with other AIB members significantly increases the transparency of the whole system of guarantees of origin at all stages of their life cycle.

Summary overview of transactions with guarantees of origin in 2022

Transaction type	Number of GOs
Export	4,080,032
Import	2,732,417
Cancellation (guarantees the origin of electricity consumed in the Czech Republic)	3,948,394
Cancellation (guarantees the origin of electricity consumed abroad)	240,702
Domestic transfer	6,619,828
Issuance	6,398,475
Withdrawal due to expiration	119,565

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Supported energy sources
Types of Support and Registration

Support for power generation is provided as green bonuses and auction bonuses for electricity or as purchase prices (feed-in-tariff). Operating aid for production of heat or biomethane is provided as green bonuses for heat or biomethane (pursuant to Act No. 165/2012 Coll., on Supported Energy Sources and amendments to certain laws).

Pursuant to the Act No. 458/2000 Coll. (Energy Act) the Market Operator is required to:

→ pay electricity producers green bonuses and auction bonuses for electricity from renewable energy sources, secondary sources and combined heat and power (CHP);
→ pay mandatory purchasers the difference between the feed-in-tariff and the hourly price and the price for their activities;
→ pay heat producers green bonuses for heat, pay producers of heat from non-renewable sources bonuses for transforming the production of heat, and green bonuses for biomethane to producers of biomethane.

Registration of support

Registration of power and heat producers and installations and registration of support is done electronically in the Market Operator's system via secure access. Producers eligible for support apply under the terms of Act No. 165/2012 Coll.; the application procedure is set out in Decree No. 489/2021 Coll.

Records of generated volumes of electricity, heat and biomethane

Producers eligible for support for generation of electricity from renewable energy sources, secondary sources, combined heat and power, support for heat and support for biomethane record monthly volumes of generated electricity, heat and biomethane through electronic reports in the Market Operator's system.

Settlement of support

The settlement of green bonuses and auction bonuses for electricity, green bonuses for heat or green bonuses for biomethane is carried out on the basis of data included in the monthly report submitted by the relevant producer pursuant to the provisions of Act No. 165/2012 Coll. and the Market Rules of OTE, a. s., for the Electricity sector and the Market Rules of OTE, a. s., for the Gas sector.

The settlement of the feed-in-tariff applied to purchase of electricity is performed by the producer for the mandatory purchaser on the basis of metered data at the delivery point of the power-generating installation and the distribution/transmission system and on the basis of data included in the monthly report. After the mandatory purchaser has paid the producer the feed-in-tariff, the Market Operator shall reimburse the mandatory purchaser for the difference between the feed-in-tariff and the hourly price of electricity (from the day-ahead sport market organized by OTE, a. s.).

In 2022, a total amount of CZK 55 million was paid in support for 676 TJ of heat from renewable sources. No biomethane producers laid claims for support for biomethane in 2022.

Sources registered in the system CS OTE

Type of source/fuel	Total sources registered in CS OTE		Of which sources commissioned in 2022	
	Installed capacity (MW)	Number of sources	Installed capacity (MW)	Number of sources
Photovoltaic plants	2,106.7	29,408	31.3	326
Wind power plants	339.2	226	0,0	0
Biomass	2,664.0	134	0.0	0
Biogas stations	323.4	731	0.0	0
Mine and drained gas	43,1	33	0.0	0
Landfill and sewer gas	87,2	196	0.2	1
Other secondary sources	490,9	29	0.0	0
Small hydro power plants	357,1	2,348	0.3	4
Other sources	14,319.3	1,182	19.9	32
Total	20,730.7	34,287	51.7	363

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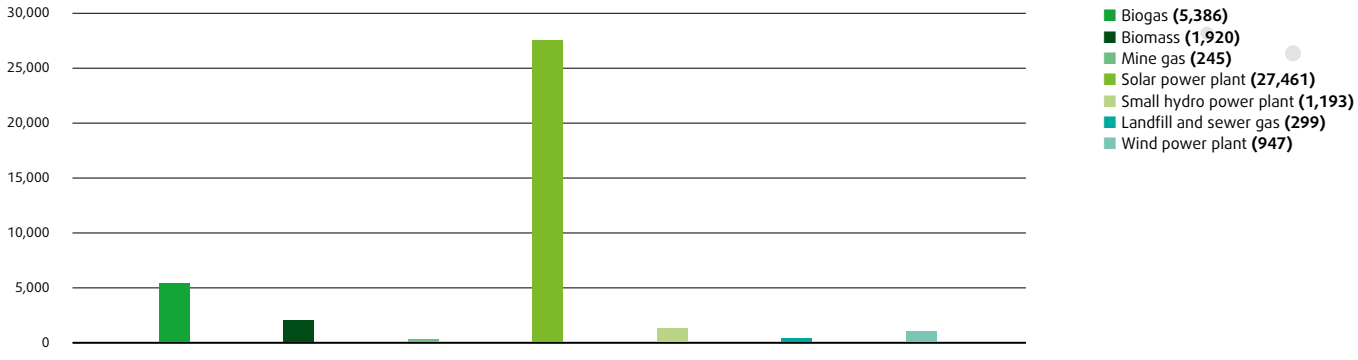
Supported energy sources
Support Paid by Source

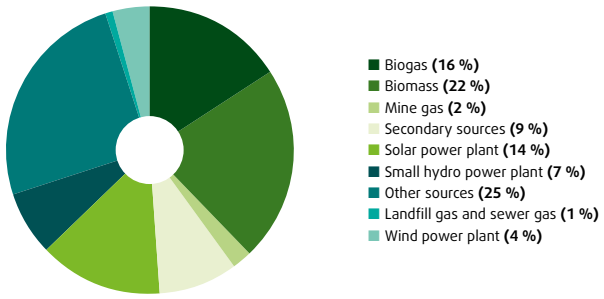
Electricity from renewable energy sources (RES) and secondary sources (Sec. S), combined heat and power (CHP)

Type of source	RES	Sec. S	CHP	Total
Supported volumes (GWh)	7,971	546	6,982	15,500
Paid (CZK million)	37,452	69	1,552	39,073

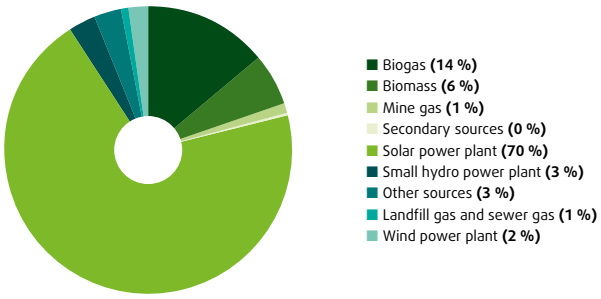
Paid support by renewable source (CZK million)



Shares of supported volumes of RES + Sec. S + CHP by source



Shares of paid support for RES + Sec. S + CHP by source



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Electricity market
Organized Short-term Market

The organized short-term electricity market allows electricity market participants to optimize their trading positions at short notice before the delivery date (day, hours and minutes) in response to the current situation in their production or consumption portfolio.

The short-term electricity market is comprised of the following trade platforms:
→ day-ahead market,
→ intraday market.

All deals closed on the foregoing markets are also automatically added to the respective trading positions, therefore market participants do not need to perform additional registration of the executed transactions, contrary to external platforms.

Key rules governing trading on OTE's short-term markets:
→ ensuring a neutral and secure environment;
→ support for market competition and ensuring non-discriminatory conditions for all participants;
→ provision of market-related information;
→ ensuring anonymous trading and acting as a central counterparty;
→ hedging risks in respect of financial settlement of transactions and physical supply of the commodity;
→ reducing barriers preventing market entry for new participants;
→ distribution of market price signals;
→ interconnection within the single European day-ahead and intraday electricity market.

Trade Platforms

Day-ahead market
The organized day-ahead electricity market has been operating since 2002. Since 2009, it is coupled with the day-ahead market in Slovakia, since 2012 the day-ahead market in Hungary and from 2014 the day-ahead market in Romania through implicit auctions. This form of trading is also known as 4M Market Coupling. In June 2021, these four daily markets were interconnected to the interconnected MRC region, creating the pan European day-ahead market (SDAC). Market participants' requirements for the purchase or sale of electricity by market participants for the following day are met jointly and from neighbouring market areas without the need to purchase transmission capacity, up to the amount of free transmission capacity at individual borders. On the day-ahead market, it is possible to anonymously offer or demand electricity for any hour of the day of delivery. The result is closed trades for a specified amount of electricity and a uniform price for trades for each hour of the day of delivery. In 2022, 24.31 TWh of electricity was traded on this market. OTE is designated on the day-ahead electricity market by the Nominated Market Operator (NEMO), which ensures uniform interconnection of day-ahead or intraday markets according to Commission Regulation (EU) 2015/1222.

Intraday market
Since 2004, the organized intraday electricity market has allowed market participants to continue to trade anonymous offers for trading hours on a given delivery day, up to a limit time of 5 minutes before the start of the hour of delivery or consumption. Since 19 November 2019, the intraday electricity market has been linked to the intraday markets of another 24 European countries within the SIDC. In 2022, 5.11 TWh of electricity was traded on this market. OTE is designated on the intraday electricity market by the NEMO, which ensures uniform interconnection of day or intraday markets according to Commission Regulation (EU) 2015/1222.

Comparison of specifics of electricity markets

	Day-ahead market	Intraday market
Type of market	Daily auction	Continuous matching
Traded period	1 hour	1 hour
Minimum tradable volume	0.1 MWh	0.1 MWh
Maximum tradable volume	99,999 MWh	999 MWh
Smallest quality inkrement	0.1 MWh	0.1 MWh
Trading currency	EUR	EUR
Minimum price	-500 EUR/MWh	-9,999 EUR/MWh
Maximum price	4,000 EUR/MWh	9,999 EUR/MWh
Smallest price inkrement	0.01 EUR/MWh	0.01 EUR/MWh
Zero price option	YES	YES
Market opens at	unlimited	15:00 D-1
Market closes at	12:00 D-1	H-0:05

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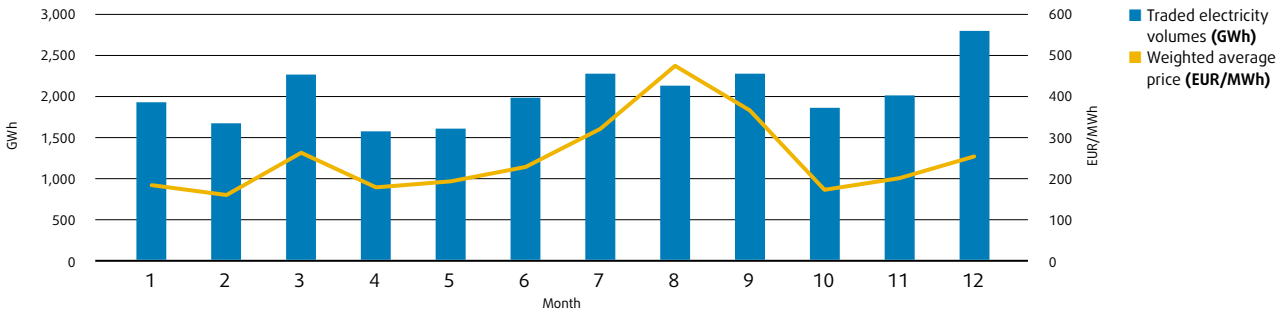
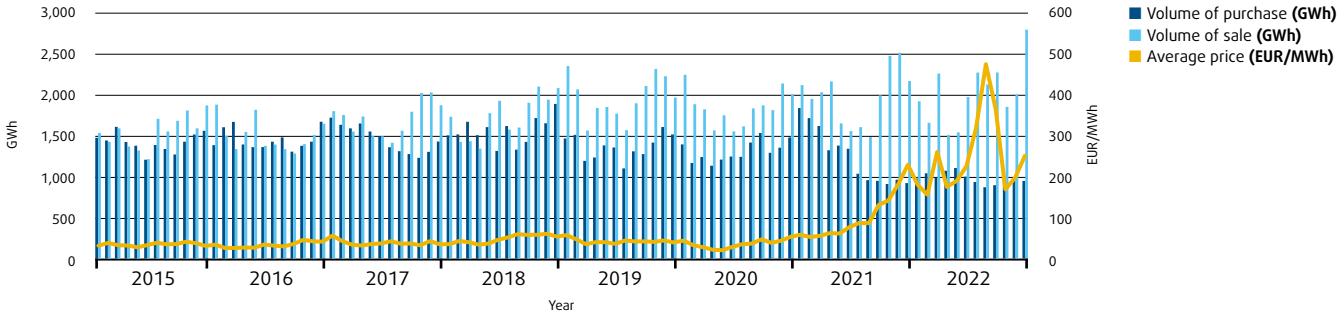
The organized short-term electricity market has maintained a high number of completed trades in 2022.The following charts illustrate the evolution of traded quantities and prices on the respective platforms during 2022.

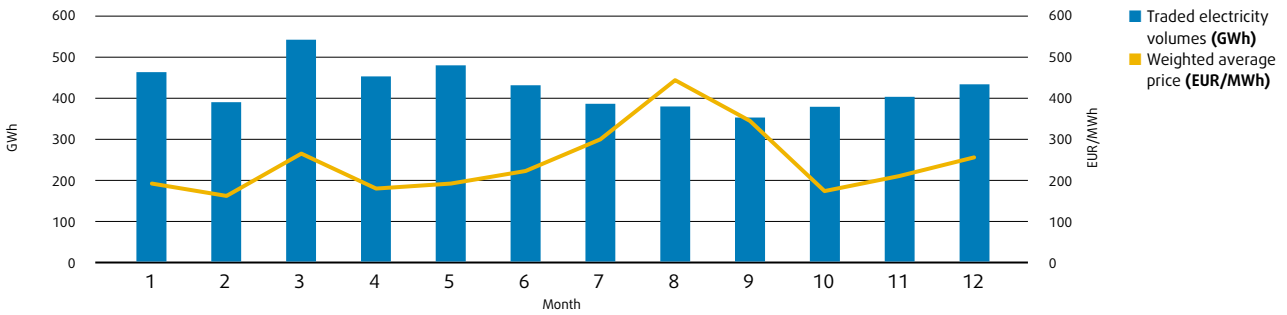
Volumes of traded electricity and prices on the day-ahead market in specific months of 2022



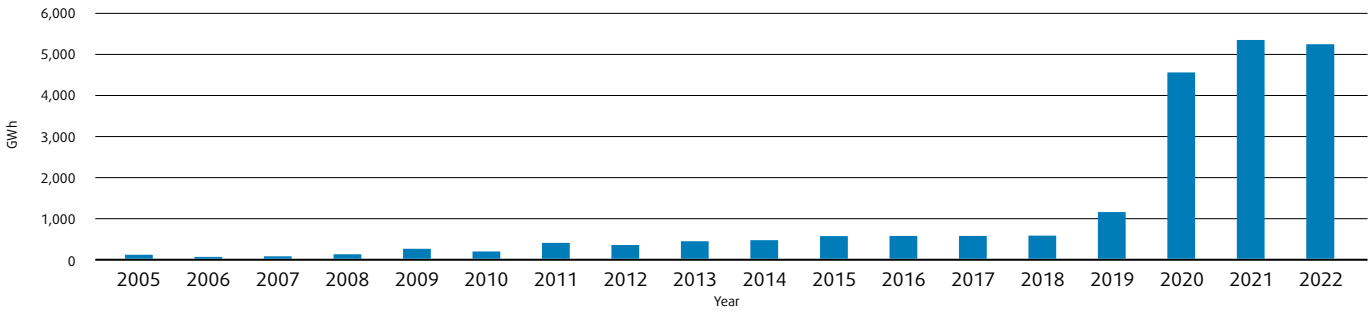
Volumes of traded electricity and average prices on the day-ahead market in specific months of 2015–2022



Volumes of traded electricity and prices on the intraday market in specific months of 2022



Amount of traded electricity on the intraday market in 2005–2022



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Electricity market
Evaluation and Settlement of Imbalances

The balance responsible party's imbalance for every evaluation interval (60 minutes) is the sum of differences between the supplied and contracted volumes of electricity for supply and differences between the consumed and contracted volumes of electricity for consumption.

Legislation defines market participants, for which OTE settles imbalances, as "balance responsible parties" (BRP). It also sets out the method of determining the volume of imbalances of balance responsible parties. The basic rule applied to charges for all imbalances stipulates that **each market participant is either responsible for its imbalances, i.e. is deemed a BRP, or it transfers imbalance responsibility to another BRP.** Any electricity consumption from the power system or supply to the system must be assigned to a market participant.

Imbalance of BRP (=) the sum of production of electricity supplied to the power system (–) the sum of consumption of electricity from the power system (+) the balance of volumes of electricity purchased/sold on organized short-term markets (+) the balance of electricity from bilateral transactions registered with OTE (+) the balance of export and import of electricity to/from abroad.

Contracted electricity volumes to supply to the power system and take from the power system are determined by the Market Operator for each evaluation interval on the basis of registered internal nominations, results of the short-term electricity market, and contracted cross-border exchanges.

Actual volumes of supplied or consumed electricity are recorded on the basis of business metering.

System imbalance in each evaluation interval is defined as the balance of all supplies by balance responsible parties and overall consumption of BRPs. The system imbalance equals the sum of the relevant BRP's imbalances and is covered by balancing energy.

Calculation of imbalance volumes of all BRPs and their financial evaluation is carried out in the OTE system as follows:

→ every day of the year for the previous day for each evaluation interval (60 minutes) - daily settlement of imbalances,
→ after the end of the month for the previous month (monthly settlement of imbalances),
→ in the 4th month after the evaluated month (final monthly setelement of imbalances).

Each BRP can access the results of the calculation via the website **https://portal.ote-cr.cz**, summarized values are posted also on OTE's public website.

The transmission system operator shall provide energy to cover the system imbalance by activating ancillary services or by purchasing balancing energy from abroad. This can be accomplished either through activation within the European platforms for the exchange of balancing energy, or by ensuring the supply of energy from abroad under contracts for the operative supply of balancing energy. The total balance of imbalances and regulating energy cleared at OTE in 2018–2022 is shown in the following table.

As in previous years, in 2022 the expenditure on balancing energy used to offset the positive system imbalance was still significantly lower than the expenditure on balancing energy used to offset the negative system imbalance.

Volumes (in GWh) and payments (in CZK million) – balancing energy, imbalances and settlement surpluses in 2018-2022

Volumes in GWh	2018	2019	2020	2021	2022
Balancing energy +	280 GWh	229 GWh	269 GWh	505 GWh	509 GWh
Balancing energy -	-312 GWh	-330 GWh	-433 GWh	-243 GWh	-459 GWh
Imbalance +	1,098 GWh	1,179 GWh	1,192 GWh	1,021 GWh	953 GWh
Imbalance -	-1,066 GWh	-1,078 GWh	-1,028 GWh	-1,283 GWh	-1,002 GWh

Payments in CZK million	2018	2019	2020	2021	2022
Balancing energy +	CZK 701 million	CZK 581 million	CZK 662 million	CZK 1 561 million	CZK 4,894 million
Balancing energy -	CZK -8 million	CZK 4 million	CZK 5 million	CZK 2 million	CZK -503 million
Imbalance +	CZK 756 million	CZK 736 million	CZK 655 million	CZK 1 275 million	CZK 2,017 million
Imbalance -	CZK -1,809 million	CZK -1,669 million	CZK -1,539 million	CZK -3,999 million	CZK -7,577 million
Settlement surplus	CZK 360 million	CZK 348 million	CZK 217 million	CZK 1,161 million	CZK 1,169 million

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Imbalance and Counter-imbalance Price

Legislation defines the method of setting the price which is charged or credited to balance responsible parties for imbalances. From 1 April 2022, the market operator determines the settlement price of the imbalance for each evaluation interval (60 minutes) on the basis of the prices of balancing energy or on the basis of the price of the incentive component according to the following scheme:

Determination of the settlement price of imbalance (SPI) in case of BE activation against the system imbalance (SI) direction:

Var.	Condition		Determination of SPI - settlement price of imbalance
1)	(SI <= 0) and (max price BE+ <= LIM_{BE+})	→	SPI = Max (BE component; IM component; SI component)
2)	(SI <= 0) and (max price BE+ > LIM_{BE+})	→	SPI = Max (protective component of BE; IM component)
3)	(SI > 0) and (min price BE- >= LIM_{BE-})	→	SPI = Min (BE component; IM component; SI component)
4)	(SI > 0) and (min price BE- < LIM_{BE-})	→	SPI = Min (protective component of BE; IM component)

LIM_{BE} – Marginal price of BE determining the transition to the system of calculation using average prices, **LIM_{BE+}** = 20,000 CZK/MWh, **LIM_{BE-}** = (-20,000) CZK/MWh
If SPI set according to **Var. 2)** is higher than SPI set according to **Var. 1)**, then SPI is set according to **Var. 1)**
If SPI set according to **Var. 4)** is lower than SPI set according to **Var. 3)** then SPI is set according to **Var. 3)**

Determination of SPI if no BE has been activated:

Condition		Determination of SPI
no activation of BE	→	SPI = The price of the unrealized activation of BE

The price of the unrealized activation is determined as the average price consisting of the first bid with the highest price of negative balancing energy in the local ranking for negative balancing energy from reserves for automatic frequency and power balance and the first bid with the lowest price of positive balancing energy in the local ranking for positive balancing energy from reserves for automatic regulation of frequency and power balance.

Determination of SPI if no balancing energy (BE) has been activated:

Component	System imbalance <= 0	System imbalance > 0
BE component (Determination of the price of the delivered BE against the SI direction [CZK/MWh])	CPI_{MaxBE+} = maximum price of positive BE	CPI_{MaxBE-} = minimum price of negative BE
SI component (Basic SI directive [CZK/MWh])	$CPI_{directive\ SI} = BE+_{aFRR} - \alpha * SI$	$CPI_{directive\ SI} = BE-_{aFRR} - \beta * SI$
Intra-Day market (IM) component (Weighted average of prices on IM trades [CZK/MWh])	$CPI_{IM} = WAP_{IM} + k$	$CPI_{IM} = WAP_{IM} - k$

Component	Depending on the direction of the system imbalance
Protective component of BE (Weighted average of BE costs [CZK/MWh])	$CPI_{PC} = \frac{(\sum C_{BE} + \text{weighted average of BE prices in the opposite direction of SI} * \sum \text{imbalances of BRP against the direction of SI})}{(-\sum \text{imbalance of BRP in the direction of SI})}$

Legend:
CPI – component price of imbl. entering the formula for SPI
α – price directive for negative SI set by ERO (5.5 CZK/MWh²)
β – price directive for positive SI set by ERO (3.5 CZK/MWh²)
WAP_{IM} – weighted average price on Intra-Day Market (IM) trades
C_{BE} – activated balancing energy costs
BRP – balance responsible party
SI – system imbalance
BE – balancing energy
BE_{aFRR} – marginal price of the standard product from reserves for power balance control with automatic activation delivered against the direction of the system imbalance (SI)
k – ERO price directing the IM component (250 CZK)

As of 1 January 2010, there was a closer dependence of **the price of the counter-imbalance** (imbalance of BRP in the direction of the opposite system imbalance) on the price of balancing energy. The counter-imbalance settlement price is the weighted average of prices from activated balancing energy in the opposite direction to the system imbalance.

Determining the settlement price of the counter-imbalance:

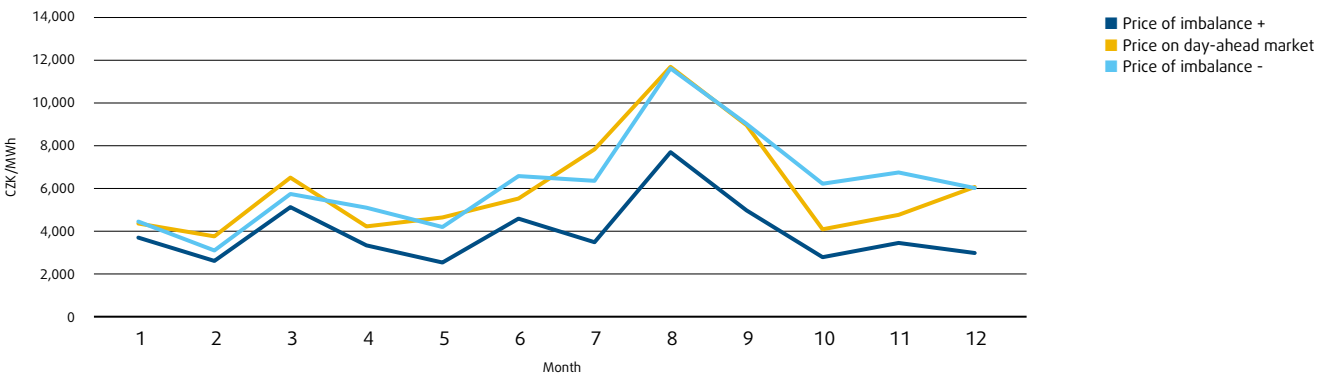
The settlement price of the counter-imbalance (SPCI) = weighted average of activated BE prices against the SI direction

Condition		Determining the settlement price of the counter-imbalance
SO <= 0	→	SPCI = weighted average of activated BE+ prices
SO > 0	→	SPCI = weighted average of activated BE- prices

A detailed description of the determination of the settlement price of the imbalance and counter-imbalance is given in Annex No. 8 to Decree No. 408/2015 Coll., On the rules of the electricity market, as amended.

Progressive imbalance prices (in relation to the volume of system imbalances) and the difference between the imbalance price and the counter-imbalance price provide a sufficient incentive for balance responsible parties to minimize their imbalances.

Average monthly prices of positive and negative imbalances and average monthly prices on the day-ahead market in 2022



Gas market
Organized Short-term Market

The organized short-term gas market allows gas traders to optimize their trading positions at short notice before the close of the gas day in response to the current situation in their production or consumption portfolio.

The short-term gas market is comprised of the following trade platforms:
→ Intraday gas market

Other short-term markets:
→ Unused flexibility market

Key rules governing trading on OTE's short-term markets:
→ ensuring a neutral and secure environment;
→ support for market competition and ensuring non-discriminatory conditions;
→ provision of market-related information;
→ ensuring anonymous trading and acting as a central counterparty;
→ hedging risks in respect of financial settlement of transactions and physical supply of the commodity.

Trade platforms

Intraday gas market

The organized intraday gas market allows gas market participants continuous trading in the day before the gas day of delivery, as well as during a gas delivery day. Only balance responsible parties the transmission system operator, and gas storage operators can trade on this market under the terms laid down in the Energy Act and the Market Rules. The intraday gas market opens at 9:00 on the day preceding the gas day on which gas is delivered.

In 2022, a total of 4,423 GWh of gas was traded on the intraday gas market. The average price of gas traded on the intraday market in 2021 amounted to EUR 109.94 EUR/MWh. 121 gas traders were registered to trade on this market.

Transactions are executed in the EUR currency and the trading unit is also one gas day. Financial settlement of the transactions is carried out in EUR or CZK. Delivery point of traded gas is virtual trading point of the Czech Republic (VTP CZ), operated by OTE.

Unused flexibility market

Balance responsible parties may anonymously buy and sell available positive or negative unused flexibility on the unused flexibility market. The market is organized in CZK currency daily for the preceding gas delivery day on the basis of auction principle (matching curves are used to set a marginal prices and traded volumes of positive and negative unused flexibility).

Short-term markets in the gas sector

	Intraday gas market	Unused flexibility market
Type of market	continuous matching	auction principle
Traded period	*1 day	*1 day
Minimum tradable volume	0.1 MWh	0.001 MWh
Maximum tradable volume	99,999.9 MWh	not defined
Smallest quantity inkrement	0.1 MWh	0.001 MWh
Trading currency	EUR	CZK
Delivery point	VTP CZ	VTP CZ
Minimum price	0.01 EUR/MWh	0.01 CZK/MWh
Maximum price	4,000 EUR/MWh	99,999 CZK/MWh
Smallest price increment	0.01 EUR/MWh	0.01 CZK/MWh
Zero price option	NO	NO
Market opens at	9:00 D-1	13:00 D+1
Market closes at	5:00 D+1	13:45 D+1

*Gas day is defined from 6:00 to 6:00 of the following day.

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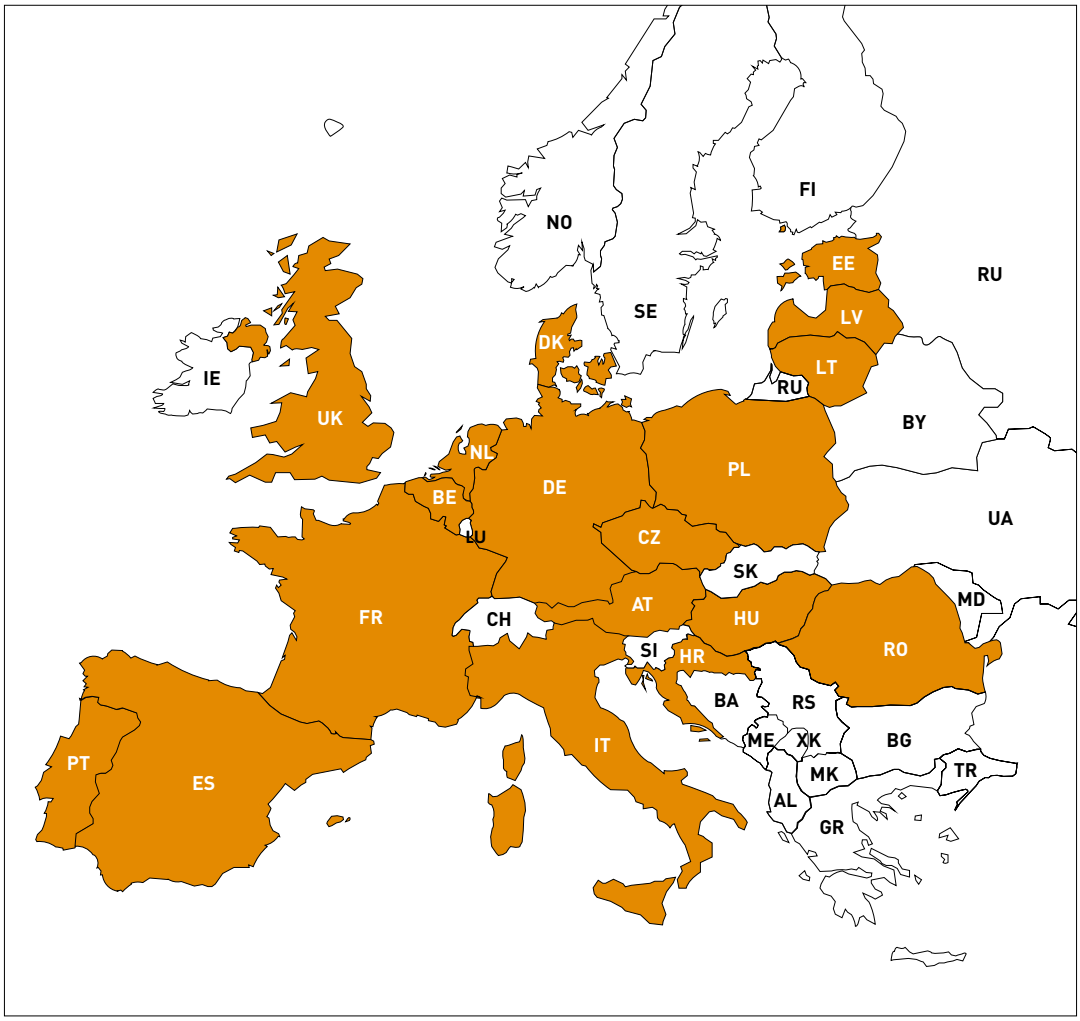
The organized intraday gas market is attractive not only for balancing the traders' positions, but also during sudden climatic changes or complications in the transmission system.

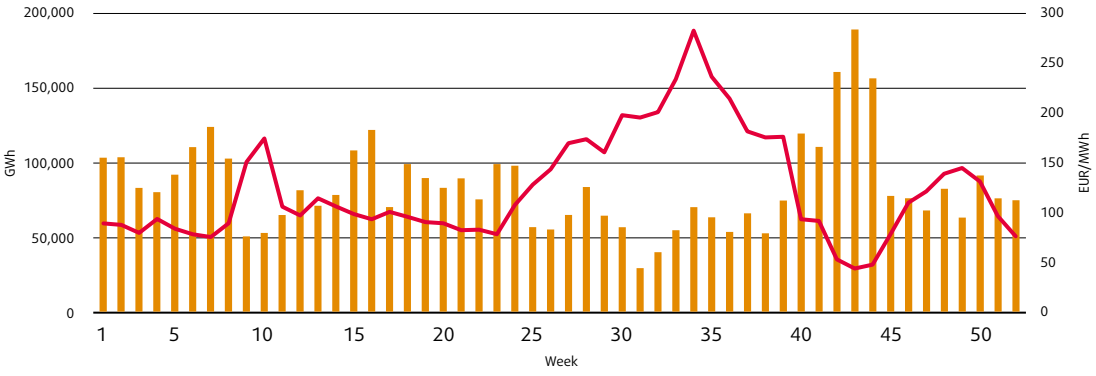
Gas trading platforms



- Countries with spot gas exchanges
- Countries without spot gas exchanges

CEGH - Austria
CEEGEX - Hungary
EEX - Germany
GASPOINT NORDIC - Denmark
GET BALTIC - Lithuania, Latvia, Estonia
GME - Italy
HROTE - Croatia
ICE ENDEX - Great Britain, Netherlands, Belgium
MIBGAS - Spain, Portugal
OTE - Czech Republic
OPCOM - Romania
POWERNEXT - France
TGE - Poland

Volumes of traded gas and average prices on the intraday gas market in specific weeks of 2022



- Trades gas volumes **(GWh)**
- Weighted average price **(EUR/MWh)**

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Gas market
Evaluation and Settlement of Imbalances

OTE has carried out evaluation and settlement of imbalances on the gas market since 2010 pursuant to the Energy Act. Legislation defines market participants for which OTE settles imbalances as Balance Responsible Parties (BRP) and sets out the method of determining volumes of imbalances pertaining to BRPs.

Imbalances of BRPs are evaluated as follows:
→ daily for each preceding gas day (daily imbalances);
→ after the end of the month for the previous gas month (monthly imbalances);
→ after completed receipt of adjusted data, i.e. the fourth month following the evaluated month (final monthly imbalances).

Daily imbalance of BRP = the sum of gas supplied to the gas system from gas production facilities – the sum of gas consumption by customers of the relevant BRP from the gas system + the balance of gas purchased/sold on organized short-term markets + the balance of bilateral contracts registered with OTE + the balance of gas injection and withdrawal into/from gas storage facilities nominations + the balance of export and import to/from abroad.

System imbalance of the entire gas system on the relevant gas day equals the sum of all traders' imbalances on the same gas day (including gas traders with transit contracts that are not BRPs).

Each BRP will have a flexibility account and a balance account of imbalances (hereinafter the aggregated account of imbalances) registered in the OTE system. The initial balance of the aggregated account of imbalances of a BRP for the relevant gas delivery day is the balance of the BRP' aggregated account of imbalances after the previous gas day. It can be said that the balance of the BRP's aggregated account of imbalances corresponds to the quantity of gas that the relevant BRP is to supply to the gas system or take from the gas system to make its gas balance in the gas system equal zero.

The final balance of the aggregated account of imbalances of a BRP at the end of the gas day is defined as the sum of the initial balance of the BRP's aggregated account of imbalances at the beginning of the gas day and the daily imbalance of the BRP provided the sum is within the flexibility limit of the respective BRP.

In the event the balance of the aggregated account of imbalances of a BRP exceeds the flexibility limit of that BRP and the BRP fails to purchase unused flexibility of another BRP, the excess amount equals the daily imbalance quantity of the BRP and this amount is settled financially at a unit price.

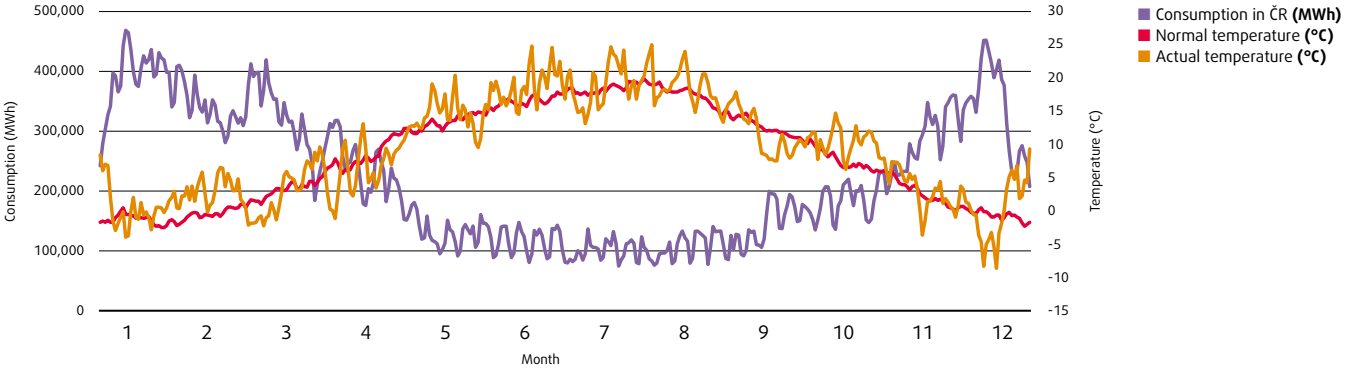
The final balance of the aggregated account of imbalances of a BRP is thus the sum of the initial balance of the aggregated account of imbalances of the BRP at the beginning of the gas day, daily imbalances of the BRP and the daily imbalance quantity of the BRP, while respecting the convention for positive/negative signs.

To determine the amount of unit price for managing the daily imbalance quantity of the balance responsible party (applicable price), the following rules apply:

For negative daily imbalance quantity, the higher of the two prices below shall be applied in EUR:
→ The highest price of the purchase of the transmission system operator on organized markets associated with a balancing action if such price exists.
→ Weighted average daily price for the gas day according to the OTE Index for the relevant day, increased by 2%–5% according to the volume of system imbalance.

For positive daily imbalance quantity, the lower of the two prices below shall be applied in EUR:
→ The lowest price of the sale of the transmission system operator on organized markets associated with a balancing action if such price exists.
→ Weighted average daily price for the gas day according to the OTE Index for the relevant day, reduced by 2% – 5% according to the volume of system imbalance.

Gas consumption during 2022 compared to its actual and normal temperature



Gas market
Linepack Flexibility Service

The linepack flexibility service is the only tool allowing balance responsible parties to make use of the inherent capability of the gas system, which is linepack variation with no impact on the smooth and secure operation of the gas system.

Flexibility

The gas system allows for using a linepack flexibility service. It facilitates oscillations of trading positions of balance responsible parties within the set flexibility limit so that no additional costs of offsetting gas imbalances are incurred unless these limits are exceeded. The flexibility service is provided free to those balance responsible parties that have a reserved capacity at border points or at gas storage points (unless the allocation rule ensuring equality of nomination and allocation is applied at these points for the relevant gas day), and those balance responsible parties responsible for imbalances at specific customer points of delivery. The size of the provided flexibility is primarily derived from the size of the reserved capacities at points with continuous measurement of type A and B or alternatively at consumption points with non-continuous measurement of type C and CM. The transmission system operator can adjust the final amount of flexibility provided daily (by activating one of the 3 reduced levels compared to the basic level) depending on the utilization of transmission capacities, when the amount of provided flexibility drops with increasing utilization of transmission capacities.

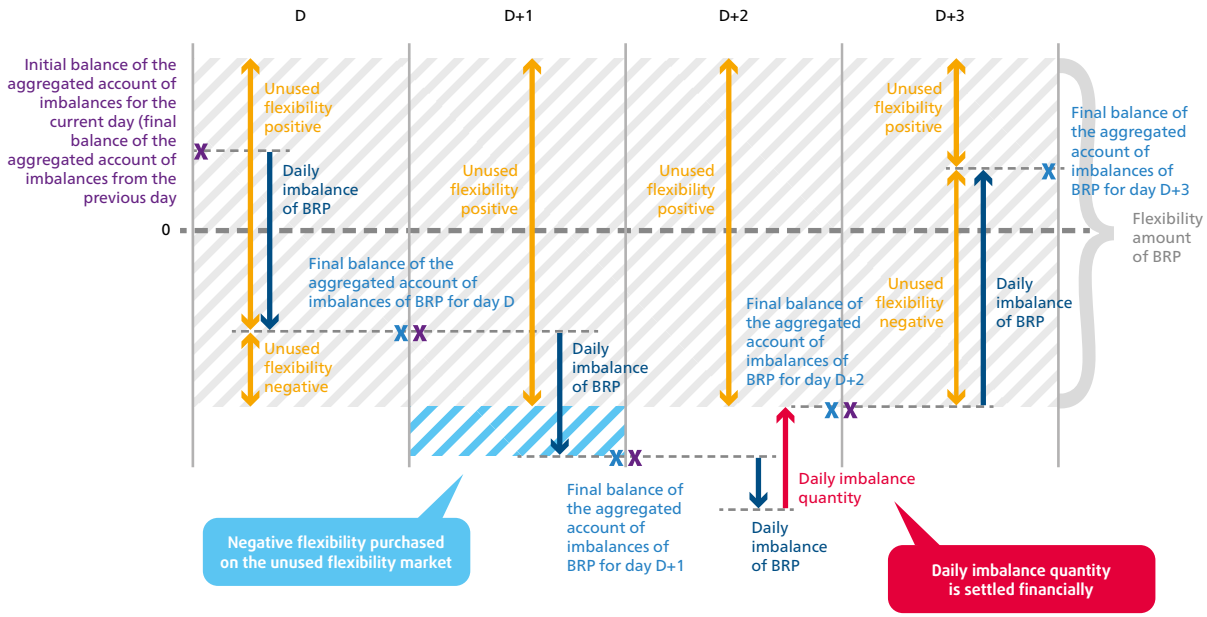
Unused flexibility

Unused flexibility of each balance responsible party is determined for the relevant gas day as the difference between the current balance of the flexibility account of the relevant balance responsible party (prior to the launch of the unused flexibility market) and the amount of flexibility provided for the relevant day to this balance responsible party, while respecting the direction of the purchased and sold flexibility. This unused flexibility cannot exceed twice the provided flexibility for the relevant gas day.

Unused flexibility market

OTE organizes the unused flexibility market in CZK currency on the principle of matching supply and demand curves on each gas day for the previous gas day. It is a platform that enables individual balance responsible parties to use the market approach for settling imbalances directly between them, even though they exceed the flexibility of the balance responsible party, but in view of the overall position of the gas system these imbalances do not require a balancing action of the transmission system operator. The balance responsible parties are motivated to participate in the unused flexibility market to prevent financial settlement of the daily imbalance quantities. However, if a system imbalance (the sum of all daily imbalances of balance responsible parties) occurs that could lead to a balancing action of the transmission system operator, the rules of the unused flexibility market ensure that such an imbalance cannot be used on the unused flexibility market (i.e. it will not be possible to acquire unused flexibility of other balance responsible parties to cover the imbalance), and the balance responsible party will pay an applicable price for this imbalance exceeding the flexibility limit.

Imbalance account with purchased unused flexibility and daily imbalance quantity



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